

JAPAN

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JIS D 9413 (2011) (English): Bicycles -- Handle grips

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*The citizens of a nation must
honor the laws of the land.*

Fukuzawa Yukichi

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JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS D 9413 : 2011

(JBPI/JSA)

Bicycles—Handle grips

ICS 43.150

Reference number : JIS D 9413 : 2011 (E)

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D 9413 : 2011

Date of Establishment: 1961-03-01

Data of Revision: 2011-02-21

Date of Public Notice in Official Gazette: 2011-02-21

Investigated by: Japanese Industrial Standards Committee
Standards Board

Technical Committee on Consumer Life Products

JIS D 9413 : 2011, First English edition published in 2011-12

Translated and published by: Japanese Standards Association
4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

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Printed in Japan

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Bicycle Promotion Institute (JBPI)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently JIS D 9413 : 2004 is replaced with this Standard.

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Bicycles—Handle grips

Introduction

This Japanese Industrial Standard was established in 1961 and has gone through 7 revisions to this day. The last revision was made in 2004 and it has been revised to correspond to the usage condition in Japan afterwards.

Further, no International Standard corresponding to this Standard has been established at this point.

1 Scope

This Standard specifies handlebar grips, tapes, plugs, and caps (hereafter referred to as "grips, etc." when these are mentioned generically) to be used for bicycles for general use and those for young children specified in JIS D 9111.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

- JIS B 0205-1 *ISO general purpose metric screw threads—Part 1: Basic profile*
- JIS B 0205-2 *ISO general purpose metric screw threads—Part 2: General plan*
- JIS B 0205-3 *ISO general purpose metric screw threads—Part 3: Selected sizes for screws, bolts and nuts*
- JIS B 0205-4 *ISO general purpose metric screw threads—Part 4: Basic dimensions*
- JIS D 9111 *Cycles—Classification and essential characteristics*
- JIS G 4303 *Stainless steel bars*
- JIS R 6252 *Abrasive papers*
- JIS R 6253 *Waterproof abrasive papers*

3 Classification

Grips, etc. are classified by the usage and shall be as given in table 1.

Table 1 Classification of grips, etc.

Classification	Usage
Handlebar grips for general use	Handlebar grips of bicycles for general use
Handlebar grips for young children	Handlebar grips of bicycles for young children
Handlebar tapes Handlebar plugs Handlebar caps	Used for drop handlebars of sports bicycles

4 Strength

4.1 Tensile strength of handlebar grip

When tested in accordance with 8.1, the opening part of the handlebar grip shall not be torn.

4.2 Removal strength of handlebar grip

When tested in accordance with 8.2, the removal force of the handlebar grips shall be at least 100 N.

4.3 Elongation of handlebar tape

When tested in accordance with 8.3, the elongation of the handlebar grips shall meet the requirement in table 2.

Table 2 Elongation of handlebar tape

Material	Elongation
Cloth	4 % max.
Synthetic resin	30 % max. at a temperature of 18 °C to 25 °C
NOTE: Synthetic resin-coated cloth is regarded as synthetic resin.	

4.4 Removal strength of handlebar plug and cap

When tested accordance with 8.4, the removal force of plugs and caps for tapes shall be at least 70 N at the mounting parts.

5 Construction

The construction of grips, etc. shall be as follows.

- Grips, etc. shall be constructed so as to be secure in every joint and assembly, and not to rotate easily after being mounted on handlebar.
- For the tip end of handlebar grips, plugs and caps, roundness shall be provided.
- Both ends of the handlebar tape shall be treated with sizing or the like to prevent unraveling.

6 Shape and dimensions

Tables 3 and 4 and figures 1 and 2 show examples of the shape of grips, etc. and their principal dimensions. These dimensions are given as a recommendation only.

6.1 Screw threads

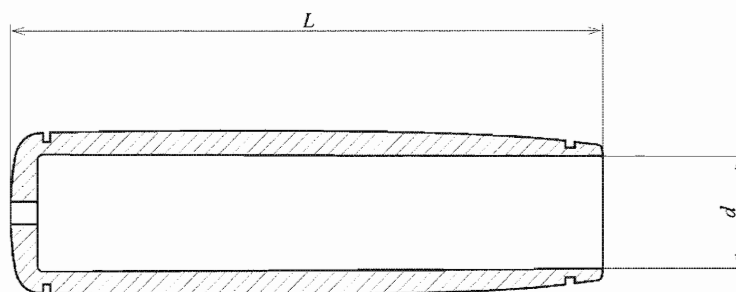
For the screw threads used, JIS B 0205-1 to JIS B 0205-4 apply.

6.2 Dimensions

Handlebar grips for young children shall have a circumference ¹⁾ of between 53 mm and 95 mm after being mounted on the handlebar.

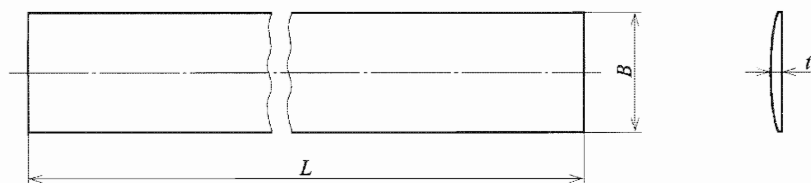
Note ¹⁾ The circumference measured at any portion where a rider could place his fingers.

Table 3 Handlebar grips



Nominal inside diameter of handlebar grip	L		Unit: mm
	For drop handlebar	For other handlebar	d
12.7	—	70 to 100	12.0
14			13.0
16			15.0
19			18.2
22	150 min.	80 to 150	21.5

Table 4 Handlebar tape



Unit: mm		
B	L ^{a)}	t
18 min.	2 000 min.	0.3 min.
Note ^{a)} Tape length for the handlebar on one side		

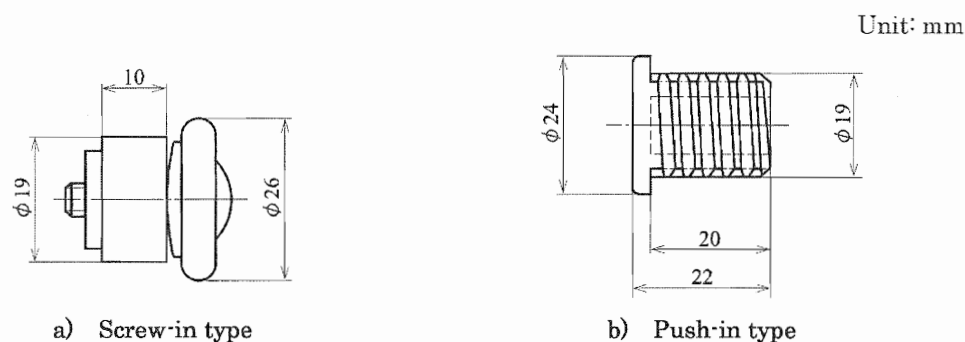


Figure 1 Handlebar plugs

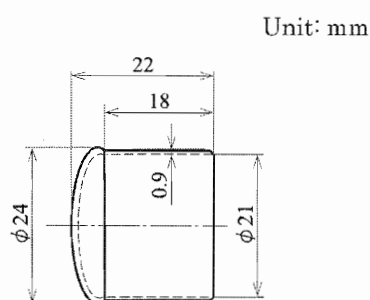


Figure 2 Handlebar cap

7 Appearance

The appearance of grips, etc. shall be as follows:

- a) The surface shall be well-shaped without cracks, flaws, irregular colour, or other visible defects.
- b) There shall be no sharp edges, fins, burrs or the like on any part.
- c) The surface subjected to plating shall be free from substrate exposure, peeling, rust or other visible defects.
- d) Markings shall be free from incomplete stamping, position deviation and the like.

8 Test methods

8.1 Tensile test of handlebar grip

When two round rods of 8 mm diameter are inserted into the inside of the opening of a handlebar grip, as shown in figure 3, are pulled in opposite directions at a constant rate (approximate 200 mm/min) by the extending it to distance (A) given in table 5, the opening part of the handlebar grip shall be examined for the presence of rupture.

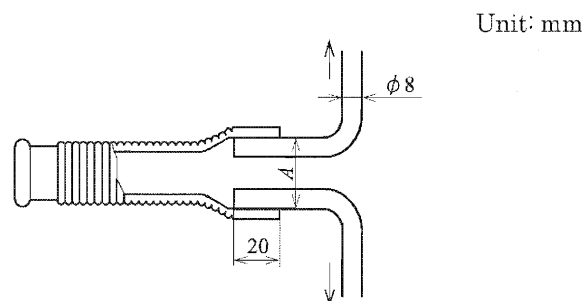


Figure 3 Tensile test for handlebar grip

Table 5 Extending distance

Unit: mm

Nominal grip inner diameter	<i>A</i>
12.7	21
14	23
16	25
19	31
22	38

8.2 Removal force test for handlebar grip

Mounting a handlebar grip on a handlebar for testing, immerse it in warm water of $60\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ for a period of 4 h or more. At least 30 min but within 2 h after taking it out, when pulling the handlebar grip from the inside end by means of the attachment as shown in figure 4, the removal force to the handlebar grip is examined. In this case, the difference between the radii of the hooking ring and the handlebar for testing shall not exceed 0.2 mm.

The handlebar for testing shall be prepared by finishing the round bar of SUS304 specified in JIS G 4303 with the abrasive paper of the grain size of P320 specified in JIS R 6252 or the waterproof abrasive paper specified in JIS R 6253 and the dimensions shall be as given in table 6. The ring shall have sufficient strength and rigidity, and the construction shall be integrated or be able to separate.

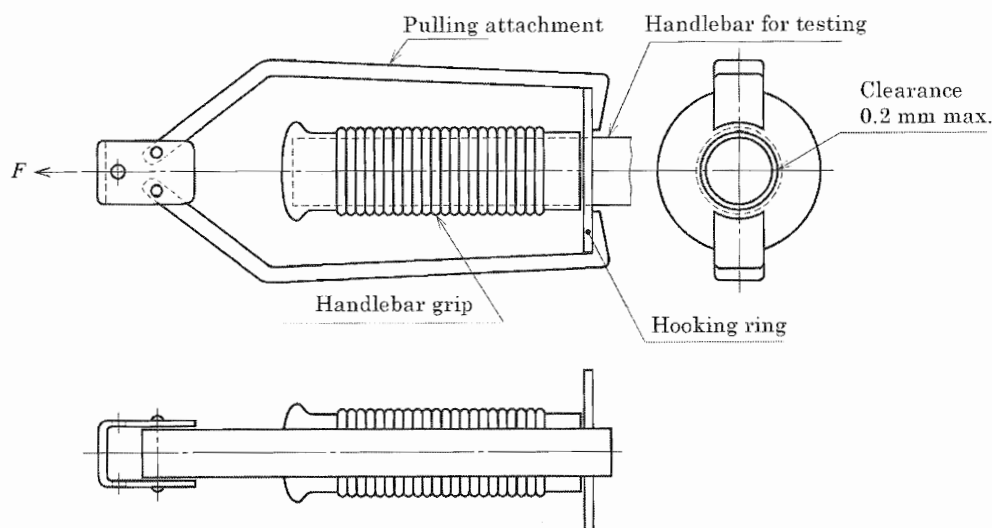
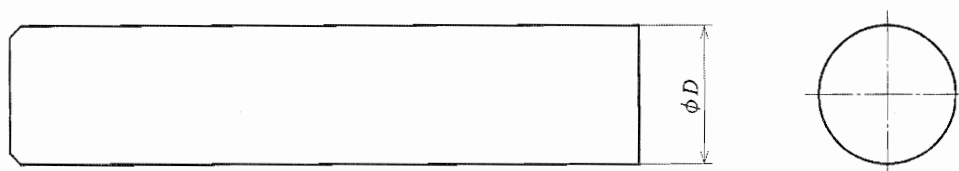


Figure 4 Removal force test for handlebar grip

Table 6 Handlebar for testing

Nominal inside diameter of handlebar grip	Unit: mm	
	Outside diameter of test handlebar	
	<i>D</i>	Tolerance
12.7	12.7	0
14	14.0	-0.15
16	15.9	
19	19.1	
22	22.2	



8.3 Tensile test of handlebar tape

When a handlebar tape of specimen length of 150 mm is pulled by a force of 30 N with a free length of 100 mm between clamps, the elongation shall be obtained from the following formula.

In addition, the tensile rate shall be 150 mm/min for cloth-made handlebar tape and 200 mm/min for synthetic resin-made handlebar tape.

$$E = \frac{L_2 - L_1}{L_1} \times 100$$

where, E : elongation (%)
 L_1 : free length between clamps before test (100 mm)
 L_2 : Free length between clamps under application of tensile force of 30 N

8.4 Removal force test of handlebar plug and cap

With a handlebar plug or cap to be used for the handlebar tape being assembled, and pulling the end part by using a pulling attachment as shown in figures 5 or 6, and the removal force in the mounting part is examined.

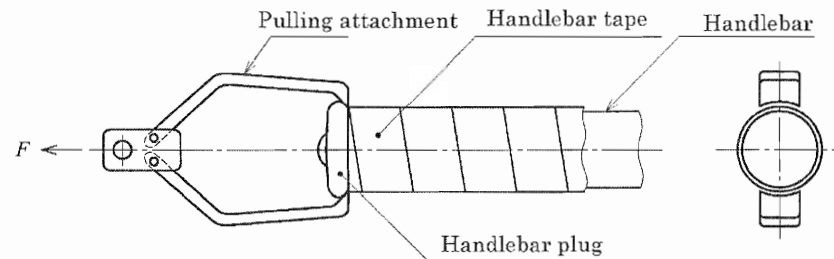


Figure 5 Removal force test for handlebar plug

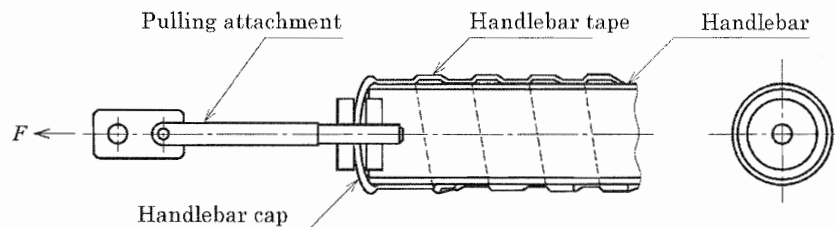


Figure 6 Removal force test for handlebar cap

9 Designation of product

The designation of product shall be as the Standard number or "Bicycle-handle grips" (name of this Standard), and classification.

Example 1: JIS D 9413 Handle grip for general use

Example 2: Bicycle-Handle grip Handlebar tape

10 Marking

Grips, etc. shall be marked with the following items by means of the indelible way on the product, printing on the package, or attaching seals and so on. However, marking may be omitted under the agreement between the manufacturer and the purchaser, within the dealing between the manufacturers.

- a) The name of the manufacturer or its abbreviation
- b) Year and month of production or their abbreviation

Errata for JIS (English edition) are printed in *Standardization and Quality Control*, published monthly by the Japanese Standards Association, and also provided to subscribers of JIS (English edition) in *Monthly Information*.

Errata will be provided upon request, please contact:

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